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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/712,110	11/13/2003	Graham G. Thomason	GB 020195	7668

7590 01/16/2007
Corporate Patent Counsel
U.S. Philips Corporation
345 Scarborough Road
Briarcliff Manor, NY 10510

EXAMINER

THANGAVELU, KANDASAMY

ART UNIT	PAPER NUMBER
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2123

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	01/16/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/712,110

Applicant(s)

THOMASON, GRAHAM G.

Examiner

Kandasamy Thangavelu

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 November 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-35 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-35 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

1. Claims 1-35 of the application have been examined.

Foreign Priority

2. Acknowledgment is made of applicant's claim for foreign priority based on an application 0226803.5 filed in Great Britain on November 126, 2002. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Drawings

3. The drawings submitted on November 13, 2003 are accepted.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the first paragraph of 35 U.S.C. §112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

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5. Claims 24-30 and 32-34 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Claim 24 claims "Apparatus for modelling a state machine ..., the apparatus comprising means responsive to an event in the first state model instructing the firing of the function call, for implanting the second state model in the first state model". This is a single means apparatus. The specification does not describe anywhere what this means comprises. The examiner has interpreted this as a software program modeling a first state model and a second state model. Single means apparatus and systems without descriptions of components or parts of the apparatus and how they work together are considered to lack adequate description and are therefore rejected under 35 USC 112 First Paragraph. The applicant's attention is directed to MPEP 2164.08(a).

2164.08(a) Single Means Claim

A single means claim, i.e., where a means recitation does not appear in combination with another recited element of means, is subject to an undue breadth rejection under 35 U.S.C. 112, first paragraph. In re Hyatt, 708 F.2d 712, 714-715, 218 USPQ 195, 197 (Fed. Cir. 1983) (A single means claim which covered every conceivable means for achieving the stated purpose was held nonenabling for the scope of the claim because the specification disclosed at most only those means known to the inventor.). When claims depend on a recited property, a fact situation comparable to Hyatt is possible, where the claim covers every conceivable structure (means) for

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achieving the stated property (result) while the specification discloses at most only those known to the inventor.

Claims rejected but not specifically addressed are rejected because of their dependence on a rejected claim.

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claims 1, 10, 14, 15, 20-23, 32 and 34 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 recites in part "instructing the firing of the function call ". There is insufficient antecedent basis for "the firing" in the claim.

Claim 10 recites in part "the model allows the entering of a state in the first model local to the caller of the second state model only on deletion of the second state model ". There is insufficient antecedent basis for "the model", "the entering", "the first model" and "the caller" in the claim.

Claim 14 recites in part "the lifetime of the second state model is independent of any other model ". There is insufficient antecedent basis for "the lifetime" in the claim.

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Claim 15 recites in part "the second state model is implanted local to the caller of the second state model ". There is insufficient antecedent basis for "the caller" in the claim.

Claim 21 recites "A computer program as claimed in claim 19, further comprising instructions for a computer to generate an executable program exhibiting the same behaviour as the state model ". There is insufficient antecedent basis for "A computer program as claimed in claim 19" since claim 19 refers to a method and not to a computer program. There is insufficient antecedent basis for "the same behaviour" and "the state model" in the claim

Claim 22 recites "A computer program as claimed in claim 19, further comprising instructions for a computer to generate tests with an oracle, for testing an implementation conformant to the behaviour of the state model ". There is insufficient antecedent basis for "A computer program as claimed in claim 19" since claim 19 refers to a method and not to a computer program. There is insufficient antecedent basis for "the behaviour" and "the state model" in the claim

Claim 23 recites "A computer programmed with the computer program of claim 19". There is insufficient antecedent basis for "the computer program of claim 19" since claim 19 refers to a method and not to a computer program.

Claim 32 recites in part "the model allows the entering of a state in the first model local to the caller of the second state model only on deletion of the second state model ". There is insufficient antecedent basis for "the model", "the entering", "the first model" and "the caller" in the claim.

Claim 34 recites in part "the second state model is implanted local to the caller of the second state model ". There is insufficient antecedent basis for "the caller" in the claim.

8. Claims 10, 13, 21, 22, 32 and 33 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. This is because these claims use terms that are vague and indefinite.

Claim 10 recites in part "the model allows the entering of a state in the first model local to the caller of the second state model only on deletion of the second state model ". The terms "the model", "the first model" and "the caller" are vague and indefinite, since corresponding terms "a model", "a first model" and "a caller" are not mentioned in any preceding claims.

Claim 13 recites in part, "the second state model is implanted in free-space". The term "free-space" is not defined in the specification and is therefore vague and indefinite. If the term will be known to one of ordinary skill in the art, the Examiner directs the applicant to provide a reference using this term in an IDS.

Claim 21 recites in part, "an executable program exhibiting the same behaviour as the state model". The terms "the same behaviour" and "the state model" are vague and indefinite, since corresponding terms "a same behaviour" and "a state model" are not mentioned in any preceding claims. In addition a behaviour is not defined anywhere in the specification or in the preceding claims.

Claim 22 recites in part, "for testing an implementation conformant to the behaviour of the state model". The terms "the behaviour" and "the state model" are vague and indefinite,

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since corresponding terms “a behaviour” and “a state model” are not mentioned in any preceding claims. In addition a behaviour is not defined anywhere in the specification.

Claim 32 recites in part “the model allows the entering of a state in the first model local to the caller of the second state model only on deletion of the second state model”. The terms “the model”, “the first model” and “the caller” are vague and indefinite, since corresponding terms “a model”, “a first model” and “a caller” are not mentioned in any preceding claims.

Claim 33 recites in part, “the second state model is implanted in free-space”. The term “free-space” is not defined in the specification and is therefore vague and indefinite.

Claim Rejections - 35 USC § 101

9. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

10. Claims 1- 35 are rejected under 35 U.S.C. 101 because the claimed inventions are directed to non-statutory subject matter.

10.1 Claim 1 states, “A method of modelling a state machine ..., the method comprising, in response to an event in the first state model instructing the firing of the function call, implanting the second state model in the first state model”.

This is interpreted by the examiner to mean that a function call is made and this results in incorporating the software model (program) of the second state model in the software model

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(program) of the first state model. The claim does not state in the preamble what the intended use of the method is. It only adds software from one program to another program. Therefore, the model has no practical application and no utility. The model does not produce any useful, tangible and concrete results. Therefore, the claim is not patentable under 35 USC 101.

Claims 2-19 further limit the method but do not produce any useful, tangible and concrete results and therefore lack practical application. Therefore, the claims are not patentable under 35 USC 101.

10.2 Claims 20-22 claim a computer program. A computer program per se is not patentable under 35 USC 101. However, a computer program on a computer readable medium, which when executed in a computer performs a method is patentable.

Claim 20 states, "A computer program containing instructions for a computer to carry out the method of claim 1".

The method is interpreted by the examiner to include a function call to be made and this results in incorporating the software model (program) of the second state model in the software model (program) of the first state model. The claim does not state in the preamble what the intended use of the method is. It only adds software from one program to another program. Therefore, the model has no practical application and no utility. The model does not produce any useful, tangible and concrete results. Therefore, the claim is not patentable under 35 USC 101.

Claims 21-22 further limit the method but do not produce any useful, tangible and concrete results and therefore lack practical application. Therefore, the claims are not patentable under 35 USC 101.

10.3 Claim 23 states "A computer programmed with the computer program of claim 19".

Since the program of claim 20 does not have any practical application and does not produce any useful, tangible and concrete results, the computer programmed with the computer program has no practical application and does not produce any useful, tangible and concrete results. Therefore, the claim is not patentable under 35 USC 101.

10.4 Claim 24 states, "Apparatus for modelling a state machine ...I, the apparatus comprising means responsive to an event in the first state model instructing the firing of the function call, for implanting the second state model in the first state model".

This is interpreted by the examiner to mean that the apparatus comprises software program in which a function call is made and this results in incorporating the software model (program) of the second state model in the software model (program) of the first state model. The claim does not state in the preamble what the intended use of the apparatus is. It only adds software from one program to another program. Therefore, the apparatus has no practical application and no utility. The apparatus does not produce any useful, tangible and concrete results. Therefore, the claim is not patentable under 35 USC 101.

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Claims 25-35 further limit the apparatus but do not produce any useful, tangible and concrete results and therefore lack practical application. Therefore, the claims are not patentable under 35 USC 101.

Conclusion

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dr. Kandasamy Thangavelu whose telephone number is 571-272-3717. The examiner can normally be reached on Monday through Friday from 8:00 AM to 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul Rodriguez, can be reached on 571-272-3753. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to TC 2100 Group receptionist: 571-272-2100.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only.

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For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read 'K. Thangavelu', with a stylized flourish at the end.

K. Thangavelu
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January 5, 2007